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THE PROCTER & GAMBLE COMPANY
INTELLECTUAL PROPERTY DIVISION
WINTON HILL TECHNICAL CENTER - BOX 161
6110 CENTER HILL AVENUE
CINCINNATI, OH 45224

EXAMINER

VIEAUX, GARY

ART UNIT PAPER NUMBER

2612

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/778,652	Applicant(s) GARTSTEIN ET AL.	
	Examiner Gary C. Vieaux	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Amendment

The Amendment filed on November 10, 2004 has been received and made of record. In response to the first office action, the abstract, as well as claims 1, 8, 21 and

5 22, have been amended.

Response to Amendments

In response to Applicant's amended abstract, the Examiner finds the amended abstract to be of proper language and format, and no longer a recitation of the claims.

10 Therefore, the objection to the abstract is hereby withdrawn.

In response to Applicant's amendments to claim 21, the examiner finds the amended language to set the claim in proper dependent form by limiting the subject matter of a previous claim. Therefore, the objection to claim 21 is hereby withdrawn.

Response to Arguments

Applicant's arguments with respect to claims 8 and 9 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

20 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5 **Claims 8 and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kent et al. (US 5,836,872) in view of the disclosed non patent literature document by Chatenay et al. (Applicant Submitted IDS, cite number 8), in further view of Desjonqueres (US 6,001,378.)

Regarding claim 8, Kenet and Chatenay teach all the limitations of claim 8 (see
10 the 103 rejection to claim 1 supra), including the teaching by Chatenay wherein the predetermined skin area comprises a scalp area (p. 1, ¶ 1, line 2.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to monitor the scalp area as taught by Chatenay, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would
15 have been motivated to monitor the scalp area when evaluating treatments related to progressive hair loss (p. 1, ¶ 2, lines 1-2.) However, neither Kenet nor Chatenay teach the at least one reference indicium comprising a tattoo.

 Nevertheless, Desjonqueres teaches a similar monitoring method which a predetermined skin area comprises a scalp area that is not only shaved, but also
20 marked via tattoo (col. 7, lines 9-22.) It would have been obvious to one of ordinary skill in the art at the time of the invention to include a tattoo as a reference indicia as taught by Desjonqueres, with the monitoring method as taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to add this indicia so that the predetermined skin area of the scalp is not only

Art Unit: 2612

more permanently indicated, beyond that of a shaved area, but also to assist in correspondence of viewing, by setting fixed points for image alignment and comparison.

Regarding claim 9, Kenet, Chatenay and Desjonqueres teach all the limitations of claim 9 (see the 103 rejection to claim 8 supra), including the teaching by Chatenay

5 wherein the predetermined skin area comprises a transitional scalp area (p. 1, ¶ 1, lines 2-3; p.1, ¶ 2, lines 1-2.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to monitor a transitional scalp area as taught by Chatenay, with the monitoring method taught by Kenet, Chatenay and Desjonqueres. One of ordinary skill in the art at the time the invention was made would have been
10 motivated to monitor a transitional scalp area when evaluating treatments related to progressive hair loss (p. 1, ¶ 2, lines 1-2.)

Applicant's arguments with respect to claims 1-7 and 10-34, have been fully
15 considered but they are not persuasive.

Regarding claim 1, Applicant contends that the combination of Kenet and Chatenay fails to teach or at least fairly suggest the claimed invention (Remarks, p. 9.) The Examiner respectfully disagrees. The Examiner agrees with the Applicant in that Kenet does teach spatial calibration, that Kenet fails to teach that the area of the scalp
20 is successively measured using or according to the ruler, and that Kenet fails to teach repositioning the ruler to exactly the same position. However, the Examiner points out the fact that Kenet was not introduced to demonstrate reference indicia. As indicated

Art Unit: 2612

on lines 4-6 of page 4 of the Office Action of July 20, 2004, "[h]owever, Kenet does not directly teach superimposing the second image on the reference image to align the reference indicia in the second magnified image with the reference indicia in the reference image." In concert with the monitoring method as taught by Kenet (Office

5 Action of July 20, 2004, p.3-4), Chatenay is employed to provide a teaching of a similar monitoring method that superimposes a second image on a reference image and aligns reference indicia in the second magnified image with the reference indicia in the reference image (p. 1, ¶ 2, line 1 – p. 2, ¶ 2, line 3.) Chatenay is found to provide reference indicia in the form of the shaved area of the scalp (p. 1, ¶ 1, line 2), and in the

10 case of the amended language of claim 1, this reference indicia would facilitate successive monitoring of the same predetermined skin area, in that it would set apart that area from other areas of the scalp. As to motivation for combination, it would have been obvious to one of ordinary skill in the art at the time of the invention to superimpose one magnified image upon another as a way to visually observe changes in the images, and for further clarity, this visual observance of the changes in the image are intended to be directed to said predetermined skin area as designated by the reference indicia. Accordingly, the Examiner respectfully upholds the 35 U.S.C. § 103(a) rejection to claim 1.

Furthermore, Examiner agrees with Applicant in that neither Kenet nor Chatenay
20 teach, "that the ruler is permanently attached to the person being measured at all" (Remarks, p. 9.) However, the Examiner respectfully points out that claim 1 does not provide for the limitation that "a reference indicia be permanently attached to the person

Art Unit: 2612

being measured", in either the original or amended form, and therefore additional consideration or discussion is not merited.

Regarding claims 2-19, each depend either directly from or indirectly from independent claim 1 and, thus, inherit all the limitations of independent claim 1.

- 5 Consequently, based on their dependence and the foregoing response to arguments relating to claim 1, the Examiner respectfully upholds the 35 U.S.C. § 103(a) rejections to claims 2-19.

Regarding claim 22, Applicant contends that the combination of Kenet, Chatenay and Rushton fails to teach or at least fairly suggest the claimed invention (Remarks, p.

- 10 9.) The Examiner respectfully disagrees. Amended claim 22 provides that the reference indicia facilitate successive monitoring of the predetermined skin area. As similarly presented above by Examiner's response in reference to claim 1, Chatenay is found to provide reference indicia in the form of the shaved area of the scalp (p. 1, ¶ 1, line 2), and in the case of the amended language of claim 22, this reference indicia
15 would facilitate successive monitoring of the same predetermined skin area, in that it would set apart that area from other areas of the scalp. Accordingly, the Examiner respectfully upholds the 35 U.S.C. § 103(a) rejection to claim 22.

- Regarding claims 27-34, Applicant contends that the combination of Kenet and
20 Chatenay fails to teach or at least fairly suggest a means for capturing a first magnified image to form a reference image and superimposing a second image by likewise aligning reference indicia (Remarks, p.9.) The Examiner respectfully disagrees. As

Art Unit: 2612

previously discussed above in reference to claim 1 supra, Kenet and Chatenay are found to provide a teaching of capturing a first magnified image to form a reference image and superimposing a second image by likewise aligning reference indicia (Chatenay - p. 1, ¶ 2, line 1 – p. 2, ¶ 2, line 3), with Chatenay providing reference indicia in the form of the shaved area of the scalp (p. 1, ¶ 1, line 2.) Accordingly, the Examiner respectfully upholds the 35 U.S.C. § 103(a) rejections to claim 27-34.

Regarding claim 20 and dependent claims 21-26, Applicant contends that the combination of Kenet and Chatenay fails to teach or at least fairly suggest digitally capturing a first image using only a red color component, and then later superimposing a second magnified image using green and blue color components (Remarks, p. 9.) The Examiner respectfully disagrees. The Office Action of July 20, 2004, provides for a teaching by Kenet and Chatenay of the claimed limitations (p. 9, ¶ 21, wherein the dialogue of claim 20 incorporates limitations already discussed in regards to the teachings of Kenet and Chatenay via reference to the teachings relating to and comprising claim 18, which although worded differently, is considered substantively equivalent material to that found within claim 20.) This is also found to apply correspondingly in reference to claims 33 and 34.

Furthermore, Applicant contends that Kenet fails to teach selectively using only the red component, selectively using only the green and blue components to form the images or selectively using three colors in the combination and specific sequence recited (Remarks p. 10.) To this contention, the Examiner also respectfully disagrees. As presented in the Office Action of July 20, 2004, Kenet not only provides for the

Art Unit: 2612

acquisition of individual color components (§ 18 and § 30), but also provides motivation for using an individual component (§ 18 and § 30, citing Kenet col. 16 lines 10-19) in the form of segmentation. It is also noted that additional motivation is provided in § 30 in creation of a system that differentiates the order of the images based on color

5 components.

Applicant also cites Kenet ("values for each pixel may be obtained from the red green and blue values as follows..." emphasis added, col. 13 lines 5-6) in support of utilization of all colors by one skilled in the art (Remarks p. 10.) The Examiner respectfully points out the cited portion of Kenet is followed by the statement that

10 "[n]umerous variations on these models exist and any may be employed by the invention [6]. Thus a single R-G-B image, with a 3-component vector for each pixel, may be transformed into a number of scalar images, each with a single scalar numerical value for each pixel – i.e. individual images displaying the hue, saturation, or intensity of the image in addition to the obvious scalar images displaying the red, green or blue

15 components of the original image" (emphasis added, col. 13 lines 13-20, and previously cited.) It is obvious from teachings of Kenet that one skilled in the art would be led to the utilization of separate color components, and not only all colors as suggested by the Applicant. The use of individual colors by Kenet is also provided in reference to segmentation (col. 16 lines 10-19), which provides segmentation applied to not only 2-D

20 to 4-D as cited by Applicant (Remarks p. 10), but also R, G, B, in addition to H (Hue), S (Saturation), I (Intensity), Y (Luminance), I and/or Q (Chrominance) images or any

scalar or vector spectral derivative thereof. Accordingly, the Examiner respectfully upholds the related 35 U.S.C. § 103(a) rejections.

Claim Rejections as Presented in Office Action of July 20, 2004

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

10 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15 **Claims 1-7, 10, 15, 17-20, 24, and 26-34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kent et al. (US 5,836,872) in view of the disclosed non patent literature document by Chatenay et al. (Applicant Submitted IDS, cite number 8.)

Regarding claim 1, Kenet teaches a monitoring method of magnifying (col. 10 lines 59-62) a predetermined skin area (col. 10 lines 16-19) having reference indicia (col. 11 lines 59-62) to provide a first magnified image (col. 10 lines 15-19); digitally capturing (col. 4 lines 50-61) the first magnified image to form a reference image (Abstract, line 1-6); after a predetermined time period (Abstract, line 3-5; col. 14, lines 9-11), magnifying the predetermined skin area to provide a second magnified image (Abstract, line 3-7; col. 14 lines 9-14); and comparing the second magnified image with the reference image (Abstract, line 5-7.) However, Kenet does not directly teach superimposing the second image on the reference image to align the reference indicia in the second magnified image with the reference indicia in the reference image.

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Art Unit: 2612

Nevertheless, Chatenay teaches a similar monitoring method (p. 1, ¶ 2, line 1 – p. 2, ¶ 2, line 3) which superimposes a second image (p. 1, ¶ 4, line 5) on the reference image to align the reference indicia (p. 1, ¶ 1, line 2) in the second magnified image with the reference indicia in the reference image (p. 1, ¶ 2, line 1 – p. 2, ¶ 2, line 3.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to superimpose the images as taught by the monitoring method of Chatenay, with the monitoring method as taught by Kenet. It would have been obvious to one of ordinary skill in the art at the time the invention was made to superimpose one magnified image upon another as a way to visually observe changes in the images.

10 Regarding claim 2, Kenet and Chatenay teach all the limitations of claim 2 (see the 103 rejection to claim 1 supra), including the teaching by Kenet of the method further comprising digitally capturing the superimposed images (col. 2 lines 12-15; col. 26 lines 5-21 and lines 44-54) to form a treatment image (col. 26 lines 49-54.) It is noted that Chatenay also teaches the method further comprising digitally capturing the superimposed images to form a treatment image (p. 1, ¶ 2, line 1 – p. 2, ¶ 2, line 3.)

15 Regarding claim 3, Kenet and Chatenay teach all the limitations of claim 3 (see the 103 rejection to claim 1 supra), including a teaching by Kenet wherein the magnified images are provided by contacting the predetermined skin area with a fiber optic head video microscope (Fig. 2C; col. 4 lines 50-65; col. 5 lines 47-62; col. 6 lines 21-22.)

20 Regarding claim 4, Kenet and Chatenay teach all the limitations of claim 4 (see the 103 rejection to claim 3 supra), including the teaching by Kenet of a method wherein the fiber optic remote head video microscope includes a transparent member adapted

to contact the predetermined skin area (col. 8 lines 6-12.) It is noted that flattening of hair would inherently occur when pressing the transparent member to contact the predetermined skin area.

5 Regarding claim 5, Kenet and Chatenay teach all the limitations of claim 5 (see the 103 rejection to claim 4 supra), including the teaching by Kenet of a method wherein an optical coupling liquid is applied to the predetermined skin area prior to contact of the predetermined skin area with the fiber optic remote head video microscope (col. 7 lines 42-46; col. 8 line 13.)

10 Regarding claim 6, Kenet and Chatenay teach all the limitations of claim 6 (see the 103 rejection to claim 5 supra), including the teaching by Kenet wherein the optical coupling liquid comprises water (col. 8 lines 34-38.)

Regarding claim 7, Kenet and Chatenay teach all the limitations of claim 7 (see the 103 rejection to claim 5 supra), including the teaching by Kenet wherein the optical coupling liquid comprises mineral oil (col. 8 lines 34-38.)

15 Regarding claim 10, Kenet and Chatenay teach all the limitations of claim 10 (see the 103 rejection to claim 1 supra), including the teaching by Chatenay wherein hair in the predetermined skin area is clipped prior to magnification to provide the first magnified image (p.1, ¶ 4, line 4.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to clip the hair in the predetermined skin area
20 prior to magnification to provide the first magnified image as taught by Chatenay, when employing the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to clip the hair

in order to provide an initial state where all the hair is a similar length (p. 1, ¶ 4, line 4), as well as where all the hair to be monitored fits within the magnified image area.

Regarding claim 15, Kenet and Chatenay teach all the limitations of claim 15 (see the 103 rejection to claim 2 supra), including the teaching by Chatenay wherein the reference image and the treatment image are compared to evaluate the respective number of individual hairs in the images (p. 2, ¶ 1, lines 3-4.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to compare the images as taught by Chatenay, when employing the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to make this comparison to obtain data relating to changes in hair population (p. 2, ¶ 1, lines 3-4.)

Regarding claim 17, Kenet and Chatenay teach all the limitations of claim 17 (see the 103 rejection to claim 1 supra), including a teaching by Kenet wherein the reference image is formed by digitally capturing the first magnified image using only a red color component (col. 11 lines 26-35; col. 12 lines 55-57; col. 13 lines 14-20.) Since the camera of Kenet acquires separate red, green, and blue images (col. 12 lines 55-57), it would have been obvious to one of ordinary skill in the art at the time the invention was made that one can digitally capture the first magnified image choosing to use only the acquired red color component as taught by Kenet, when employing the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to capture the first digital image using only one color component, red, so that image segmentation on the first

Art Unit: 2612

image could also be conducted; removing artifacts, interfering structures, or regions of background surface not necessary in the subsequent analysis (col. 16 lines 10-19.)

Regarding claim 18, Kenet and Chatenay teach all the limitations of claim 18 (see the 103 rejection to claim 17 supra), including a teaching by Kenet wherein the
5 second magnified image is digitally capturing using green and blue color components (col. 11 lines 26-35; col. 12 lines 55-57.) It is inherent in the camera being used, which acquires images as three separate red, green, and blue images, that the image is digitally captured using the green and blue color components.

Regarding claim 19, Kenet and Chatenay teach all the limitations of claim 19
10 (see the 103 rejection to claim 2 supra), including the teaching by Chatenay wherein after a further predetermined time period, the predetermined skin area is magnified to provide a third image (p. 1, ¶ 4, line 6), and further wherein the third image is superimposed on the reference image or the treatment image to align the reference indicia in the third image with the reference indicia in the reference image or the
15 treatment image, respectively (p. 1, ¶ 2, line 1 – p. 2, ¶ 2, line 3.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a third image as taught by Chatenay, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to use a third image to observe additional changes that may have
20 occurred since the reference or treatment image.

Regarding claim 20, Kenet and Chatenay teach all the limitations of claim 20 (see the 103 rejection to claim 18 supra), including the teaching by Kenet of the method

Art Unit: 2612

further comprising digitally capturing the superimposed images (col. 2 lines 12-15; col. 26 lines 18-21 and lines 44-54) to form a treatment image (col. 26 lines 49-54) wherein the magnified images are provided by contacting the predetermined skin area with a fiber optic head video microscope (Fig. 2C; col. 4 lines 50-65; col. 5 lines 47-62; col. 6 lines 21-22.) It is noted that Chatenay also teaches the method further comprising digitally capturing the superimposed images to form a treatment image (p. 1, ¶ 2, line 1 – p. 2, ¶ 2, line 3.)

Regarding claim 24, Kenet and Chatenay teach all the limitations of claim 24 (see the 103 rejection to claim 20 supra), including the teaching by Chatenay wherein the reference image and the treatment image are compared to evaluate the respective number of individual hairs in the images (p. 2, ¶ 1, lines 3-4.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to compare the images as taught by Chatenay, when employing the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to make this comparison to obtain data relating to changes in hair population (p. 2, ¶ 1, lines 3-4.)

Regarding claim 26, Kenet and Chatenay teach all the limitations of claim 26 (see the 103 rejection to claim 20 supra), including the teaching by Chatenay wherein the predetermined skin area comprises a transitional scalp area (p. 1, ¶ 1, lines 2-3; p. 1, ¶ 2, lines 1-2.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to monitor a transitional scalp area as taught by Chatenay, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at

Art Unit: 2612

the time the invention was made would have been motivated to monitor a transitional scalp area when evaluating treatments related to progressive hair loss (p. 1, ¶ 2, lines 1-2.)

Regarding claim 27, Kenet teaches a monitoring apparatus comprising a fiber
5 optic remote head video microscope (Fig. 2C; col. 4 lines 50-65; col. 5 lines 47-62; col. 6 lines 21-22); means for digitally capturing (col. 4 lines 50-61) a first magnified image provided by the microscope to form a reference image (Abstract, line 1-6.) Kenet does not provide means for superimposing a second magnified image provided by the microscope on the reference image and aligning reference indicia in the second
10 magnified image with reference indicia in the reference image. However, Kenet does provide means for comparing a second magnified image provided by the microscope with the reference image (Abstract, line 5-7; col. 26 lines 18-34.) Nevertheless, Chatenay teaches a similar monitoring method (p. 1, ¶ 2, line 1 – p. 2, ¶ 2, line 3) employing an apparatus which superimposes a second image (p. 1, ¶ 4, line 5) on the
15 reference image to align the reference indicia (p. 1, ¶ 1, line 2) in the second magnified image with the reference indicia in the reference image (p. 1, ¶ 2, line 1 – p. 2, ¶ 2, line 3.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the superimposing apparatus as taught by Chatenay, with the fiber optic remote head video microscope monitoring apparatus as taught by Kenet. It would
20 have been obvious to one of ordinary skill in the art at the time the invention was made to employ an apparatus that superimposes one magnified image upon another as a way

Art Unit: 2612

to visually observe changes in the images as provided by a fiber optic remote head video microscope.

Regarding claim 28, Kenet and Chatenay teach all the limitations of claim 28 (see the 103 rejection to claim 27 supra), including the teaching by Kenet of an apparatus further comprising means for digitally capturing the superimposed images (col. 2 lines 12-15; col. 26 lines 5-21 and lines 44-54) to form a treatment image (col. 26 lines 49-54; also see col. 3 line 50 – col. 8 line 38 for further hardware descriptions.) It is noted that Chatenay also teaches an apparatus further comprising means for digitally capturing the superimposed images to form a treatment image (p. 1, ¶ 2, line 1 – p. 2, ¶ 2, line 3.)

Regarding claim 29, Kenet and Chatenay teach all the limitations of claim 29 (see the 103 rejection to claim 27 supra), including the teaching by Kenet of an apparatus wherein the fiber optic remote head video microscope includes a transparent member adapted to contact the predetermined skin area (col. 8 lines 6-12.) It is noted that flattening of hair would inherently occur when pressing the transparent member to contact the predetermined skin area.

Regarding claim 30, Kenet and Chatenay teach all the limitations of claim 30 (see the 103 rejection to claim 27 supra), including a teaching by Kenet of an apparatus further comprising a computer screen for viewing the magnified images (Fig. 1 indicator 144; col. 4 lines 43-47; col. 26 lines 18-21 and 45-47.)

Regarding claim 31, Kenet and Chatenay teach all the limitations of claim 31 (see the 103 rejection to claim 30 supra), including a teaching by Kenet wherein the

computer screen is adapted for viewing the digitally captured image (Fig. 1 indicator 144; col. 4 lines 43-47; col. 26 lines 18-21 and 45-47.)

Regarding claim 32, Kenet and Chatenay teach all the limitations of claim 32 (see the 103 rejection to claim 31 supra), including a teaching wherein the computer screen is adapted for viewing the superimposed images (Fig. 1 indicator 144; col. 4 lines 43-47; col. 26 lines 18-21 and 45-47.) It is noted by the examiner that a monitor that is structurally capable of viewing images via digital input, would also be capable of viewing inputted images that were superimposed.

Regarding claim 33, Kenet and Chatenay teach all the limitations of claim 33 (see the 103 rejection to claim 28 supra), including a teaching wherein the means for digitally capturing a first magnified image forms a reference image using only a red color component (col. 11 lines 26-35; col. 12 lines 55-57; col. 13 lines 14-20.) Since the camera of Kenet acquires separate red, green, and blue images (col. 12 lines 55-57), it would have been obvious to one of ordinary skill in the art at the time the invention was made that one can digitally capture the first magnified image choosing to use only the acquired red color component to form a reference image as taught by Kenet, when employing the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to capture the first digital image using only one color component, red, so that image segmentation on the first image could also be conducted; removing artifacts, interfering structures, or regions of background surface not necessary in the subsequent analysis (col. 16 lines 10-19.)

Regarding claim 34, Kenet and Chatenay teach all the limitations of claim 34 (see the 103 rejection to claim 34 supra), including a teaching wherein the means for digitally capturing the superimposed images uses a second magnified image using only green and blue components (col. 11 lines 26-35; col. 12 lines 55-57; col. 13 lines 14-20.) Since the camera of Kenet acquires separate red, green, and blue images (col. 12 lines 55-57), it would have been obvious to one of ordinary skill in the art at the time the invention was made that one can digitally capture the second magnified image choosing to use only the acquired green and blue color components as taught by Kenet, when employing the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to capture the second digital image using only the green and blue color components so that image segmentation on the second image could also be conducted (col. 16 lines 10-19.) An additional motivation to capture the second image using only the green and blue color components would be to create a system which differentiates the order of the images based on color components.

Claims 11-14, 16, 21-23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenet and Chatenay in view of the disclosed non patent literature document by Rushton et al. (Applicant Submitted IDS, cite number 10.)

Regarding claim 11, Kenet and Chatenay teach all the limitations of claim 11 (see the 103 rejection to claim 1 supra), except for a teaching wherein hair in the predetermined skin area is magnified greater than ten fold to provide the first and

Art Unit: 2612

second magnified images. However, Kenet does teach the method of claim 2 as being applicable to the monitoring of hair (col. 3 lines 21-29.) Rushton teaches the use of magnification images of x20 to provide the first and second magnified images (p. 2, col. 1, ¶ 4, lines 1-6; p. 3, col. 1, ¶ 2, lines 12-16.) It would have been obvious to one of
5 ordinary skill in the art at the time the invention was made to use a magnification greater than ten fold to provide the first and second magnified images as taught by Rushton, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to use a magnification greater than ten fold to provide the first and second magnified images
10 when determining hair diameter, which is otherwise problematic at lower magnifications (Rushton, p. 3, col. 1, ¶ 2, lines 12-16.)

Regarding claim 12, Kenet and Chatenay teach all the limitations of claim 12 (see the 103 rejection to claim 1 supra), except for a teaching wherein the predetermined skin area is magnified greater than twenty fold to provide the first and
15 second magnified images. However, Kenet does teach the method of claim 2 as being applicable to the monitoring of hair (col. 3 lines 21-29.) Rushton teaches the use of magnification images of x40 to provide the first and second magnified images (p. 2, col. 1, ¶ 4, lines 1-6; p. 3, col. 1, ¶ 2, lines 12-16.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a magnification greater
20 than twenty fold to provide the first and second magnified images as taught by Rushton, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to use a

Art Unit: 2612

magnification greater than twenty fold to provide the first and second magnified images to effectively determine hair diameter, which is otherwise problematic at lower magnifications (Rushton, p. 3, col. 1, ¶ 2, lines 12-16.)

Regarding claim 13, Kenet and Chatenay teach all the limitations of claim 13

5 (see the 103 rejection to claim 2 supra), except for a teaching wherein the reference image and the treatment image are compared to evaluate the respective lengths of individual hairs in the images. However, Kenet does teach the method of claim 2 as being applicable to the monitoring of hair (col. 3 lines 21-29.) Rushton teaches the evaluation of linear hair growth (p. 2, col. 1, ¶ 4, lines 1-6; p. 1, col. 1, ¶ 2, lines 12-16.)

10 It would have been obvious to one of ordinary skill in the art at the time the invention was made to conduct evaluations of the respective lengths of individual hairs as taught by Rushton, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to make this combination of teachings in order to conduct quantitative measurements of
15 hair length in a non-invasive, patient-friendly manner (Rushton, p. 1, col. 1, ¶ 2, lines 1-16.)

Regarding claim 14, Kenet and Chatenay teach all the limitations of claim 14

(see the 103 rejection to claim 2 supra), except for a teaching wherein the reference image and the treatment image are compared to evaluate the respective hair shaft
20 diameters of individual hairs in the images. However, Kenet does teach the method of claim 2 as being applicable to the monitoring of hair (col. 3 lines 21-29), as well as using diameter as a quantitative parameter (col. 20 lines 27-33.) Rushton teaches the

Art Unit: 2612

evaluation of hair diameter of individual hairs in the images (p. 2, col. 1, ¶ 4, lines 1-6; p. 3, col. 1, ¶ 2, lines 12-16.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to conduct evaluations of the respective hair shaft diameters of individual hairs as taught by Rushton, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to make this combination of teachings in order to conduct quantitative measurements of hair shaft diameters in a non-invasive, patient-friendly manner (Rushton, p. 1, col. 1, ¶ 2, lines 1-16.)

Regarding claim 16, Kenet and Chatenay teach all the limitations of claim 16 (see the 103 rejection to claim 2 supra), except for a teaching wherein the reference image and the treatment image are compared to evaluate the respective lengths, hair shaft diameters, and numbers of individual hairs in the images. However, Kenet does teach the method of claim 2 being applicable to the monitoring of hair (col. 3 lines 21-29) and Chatenay teaches the evaluation of the number of individual hairs in the images (see the 103 rejection to claim 15 supra.) Rushton teaches the evaluation of the respective lengths, hair shaft diameters, and numbers of individual hairs in the images (p. 1, col. 1, ¶ 2, lines 12-16.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to conduct evaluations of the respective lengths, hair shaft diameters, and numbers of individual hairs as taught by Rushton, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to make this combination of

teachings in order to conduct quantitative measurements of hair variables in a non-invasive, patient-friendly manner (Rushton, p. 1, col. 1, ¶ 2, lines 1-16.)

Regarding claim 21, Kenet and Chatenay teach all the limitations of claim 21 (see the 103 rejection to claim 20 supra), except for a teaching wherein the

5 predetermined skin area is magnified greater than twenty fold to provide the first and second magnified images. However, Kenet does teach the method of claim 2 as being applicable to the monitoring of hair (col. 3 lines 21-29.) Rushton teaches the use of magnification images of x40 to provide the first and second magnified images (p. 2, col. 1, ¶ 4, lines 1-6; p. 3, col. 1, ¶ 2, lines 12-16.) It would have been obvious to one of
10 ordinary skill in the art at the time the invention was made to use a magnification greater than twenty fold to provide the first and second magnified images as taught by Rushton, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to use a magnification greater than twenty fold to provide the first and second magnified images
15 to effectively determine hair diameter, which is otherwise problematic at lower magnifications (Rushton, p. 3, col. 1, ¶ 2, lines 12-16.)

Regarding claim 22, Kenet and Chatenay teach all the limitations of claim 22 (see the 103 rejection to claim 20 supra), except for a teaching wherein the reference image and the treatment image are compared to evaluate the respective lengths of
20 individual hairs in the images. However, Kenet does teach the method of claim 2 as being applicable to the monitoring of hair (col. 3 lines 21-29.) Rushton teaches the evaluation of linear hair growth (p. 2, col. 1, ¶ 4, lines 1-6; p. 1, col. 1, ¶ 2, lines 12-16.)

Art Unit: 2612

It would have been obvious to one of ordinary skill in the art at the time the invention was made to conduct evaluations of the respective lengths of individual hairs as taught by Rushton, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to make this combination of teachings in order to conduct quantitative measurements of hair length in a non-invasive, patient-friendly manner (Rushton, p. 1, col. 1, ¶ 2, lines 1-16.)

Regarding claim 23, Kenet and Chatenay teach all the limitations of claim 23 (see the 103 rejection to claim 20 supra), except for a teaching wherein the reference image and the treatment image are compared to evaluate the respective hair shaft diameters of individual hairs in the images. However, Kenet does teach the method of claim 2 as being applicable to the monitoring of hair (col. 3 lines 21-29), as well as using diameter as a quantitative parameter (col. 20 lines 27-33.) Rushton teaches the evaluation of hair diameter of individual hairs in the images (p. 2, col. 1, ¶ 4, lines 1-6; p. 3, col. 1, ¶ 2, lines 12-16.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to conduct evaluations of the respective hair shaft diameters of individual hairs as taught by Rushton, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to make this combination of teachings in order to conduct quantitative measurements of hair shaft diameters in a non-invasive, patient-friendly manner (Rushton, p. 1, col. 1, ¶ 2, lines 1-16.)

Regarding claim 25, Kenet and Chatenay teach all the limitations of claim 25 (see the 103 rejection to claim 20 supra), except for a teaching wherein the reference image and the treatment image are compared to evaluate the respective lengths, hair shaft diameters, and numbers of individual hairs in the images. However, Kenet does
5 teach the method of claim 2 being applicable to the monitoring of hair (col. 3 lines 21-29) and Chatenay teaches the evaluation of the number of individual hairs in the images (see the 103 rejection to claim 15 supra.) Rushton teaches the evaluation of the respective lengths, hair-shaft diameters, and numbers of individual hairs in the images (p. 1, col. 1, ¶ 2, lines 12-16.) It would have been obvious to one of ordinary skill in the
10 art at the time the invention was made to conduct evaluations of the respective lengths, hair shaft diameters, and numbers of individual hairs as taught by Rushton, with the monitoring method taught by Kenet and Chatenay. One of ordinary skill in the art at the time the invention was made would have been motivated to make this combination of teachings in order to conduct quantitative measurements of hair variables in a non-
15 invasive, patient-friendly manner (Rushton, p. 1, col. 1, ¶ 2, lines 1-16.)

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

20 A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

Art Unit: 2612

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later

5 than SIX MONTHS from the mailing date of this final action.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary C. Vieaux whose telephone number is 571-272-

10 7318. The examiner can normally be reached on Monday - Friday, 8:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 571-272-7308. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the
15 Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic
20 Business Center (EBC) at 866-217-9197 (toll-free).

Gary C. Vieaux
Examiner
Art Unit 2612

Application/Control Number: 09/778,652
Art Unit: 2612

Page 26

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WENDY R. GARBER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2500